DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 69.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-011332
Date Inspected: 25-Dec-2009

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island

OSM Arrival Time: 1900
OSM Departure Time: 700
Location: Shanghai, China

CWI Name:	See Below	**CWI Present:**	☑ Yes ☐ No
Inspected CWI report:	☐ Yes ☑ No ☐ N/A	**Rod Oven in Use:**	☐ Yes ☐ No ☑ N/A
Electrode to specification:	☑ Yes ☐ No ☐ N/A	**Weld Procedures Followed:**	☑ Yes ☐ No ☐ N/A
Qualified Welders:	☑ Yes ☐ No ☐ N/A	**Verified Joint Fit-up:**	☐ Yes ☑ No ☐ N/A
Approved Drawings:	☑ Yes ☐ No ☐ N/A	**Approved WPS:**	☑ Yes ☐ No ☐ N/A
		Delayed / Cancelled:	☐ Yes ☑ No ☐ N/A

Bridge No: 34-0006
Component: OBG

Summary of Items Observed:
CWI Inspectors: Mr. Liu Fa Wen, Mr. Peng Guo

On this date CALTRANS OSM Quality Assurance (QA) Inspector, Mr. Paul Dawson, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. This QA Inspector observed the following:

OBG BAY 5

This QA Inspector observed ZPMC welder Ms. Song Aiying, stencil 215689, is using Flux Cored welding procedure WPS-345-FCAW-1G(1F)-Repair-1 to make a critical weld repair to traveler rail weld 10TR3 at eight locations in accordance with Caltrans approved (12-16-09) weld repair report B-WR9282. This QA Inspector observed a welding current of approximately 280 amps and 29.3 volts. This QA Inspector observed Ms. Song Aiying appears to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder stencil 250352, is using Flux Cored welding procedure WPS-345-FCAW-1G(1F)-Repair-1 to make a weld repair to traveler rail weld 11TR1 at six locations in accordance with weld repair report B-WR9292. This QA Inspector observed a welding current of approximately 280 amps and 29.3 volts. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Chen Nai Jun, stencil 205390, is using Flux Cored welding procedure WPS-345-FCAW-2G(2F)-Repair-1 to make a weld repair to traveler rail weld 10TR5-005-014. This QA Inspector observed a welding current of approximately 280 amps and 29.3 volts and the base material has been preheated with a torch prior to welding. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Si Gao Feng, stencil 204342, is using Flux Cored welding procedure WPS-345-FCAW-2G(2F)-Repair-1 to make a weld repair to traveler rail weld 10TR5-005-014 in accordance with weld repair report B-WR9439. This QA Inspector observed a welding current of approximately 290 amps and 30.0 volts and the base material has been preheated with a torch prior to welding. Items observed on this date appeared to generally comply with applicable contract documents.
Heavy Dock

This QA Inspector observed ZPMC welder Ms. Dong Yumei stencil 054069 is using Flux Cored welding procedure WPS-B-T-2333-TC-P4-F to make south tower lift 1 weld SSD1-SA16-F/G-14. This QA Inspector measured a welding current of approximately 220 amps, 25.0 volts and the base material appears to have been preheated with electric heating elements and ZPMC QC CWI Mr. Gao Zhi Chun is monitoring this welding. This QA Inspector observed that Ms. Dong Yumei appears to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder stencil 050342 is using Flux Cored welding procedure WPS-B-T-2333-TC-P4-F to make south tower lift 1 weld SSD1-SA16-F/G-17. This QA Inspector measured a welding current of approximately 210 amps and 24.0 volts, the base material appears to have been preheated with electric heating elements and ZPMC QC CWI Mr. Gao Zhi Chun is monitoring this welding. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder stencil 54001 is using Flux Cored welding procedure WPS-B-T-2333-TC-P4-F to make south tower lift 1 weld SSD1-SA16-D/F-2. This QA Inspector measured a welding current of approximately 210 amps, 24.3 volts and the base material appears to have been preheated with electric heating elements and ZPMC QC CWI Mr. Gao Zhi Chun is monitoring this welding. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Xu Xiuping, stencil 057244 is using Flux Cored welding procedure WPS-B-T-2333-TC-P4-F to make south tower lift 1 weld SSD1-SA16-F/G-14. This QA Inspector measured a welding current of approximately 200 amps, 25.3 volts and the base material appears to have been preheated with electric heating elements and ZPMC QC CWI Mr. Gao Zhi Chun is monitoring this welding. This QA Inspector observed that Mr. Xu Xiuping appears to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Yu Jun, stencil 201825 is using Flux Cored welding procedure WPS-B-T-2333-TC-P4-F to make south tower lift 1 weld SSD1-SA16-D/F-4. This QA Inspector measured a welding current of approximately 220 amps, 25.0 volts and the base material appears to have been preheated with electric heating elements and ZPMC QC CWI Mr. Gao Zhi Chun is monitoring this welding. This QA Inspector

observed that Mr. Yu Jun appears to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

ZPMC issued “Inspection Notification Sheet” number 12172009-1 informing this QA Inspector that at 1900 hours ABF Inspectors will be performing magnetic particle (MT) and ultrasonic (UT) inspections of OBG cross beam CB5 weld repairs: East side CB202A-005-004, -005 and -006 and at 1930 hours ABF Inspectors will be performing magnetic particle (MT) and ultrasonic (UT) inspections of OBG cross beam CB5 weld repairs: West side CB202A-005-016, -017 and -018. These welds connect the side plates to the bottom plate. This QA Inspector observed ABF has marked a UT rejection at (location) Y=5285 mm and the other three repair areas are marked as being UT accepted by ABF personnel. This QA Inspector performed ultrasonic inspections of the weld repair locations for detection of longitudinal and planar transverse indications utilizing scanning pattern A, B, C and D (AWS D1.5 Fig 6.7) and no additional UT rejections were observed. Items observed on this date appeared to generally comply with applicable contract documents.

Blast Shop #1

This QA Inspector performed random visual inspections of the upper internal surfaces of OBG Segment 8AW between panel points PP62 and PP63 as per ZPMC Notice of Inspection request number 2345. ZPMC had recently completed grit blasting, prior to application of paint, and the steel surfaces that were inspected were mostly free of rust oxide and other contaminants that had previously obscured portions of the plates and weld surfaces. This QA Inspector visually observed approximately 50 locations that required grinding to resolve visual weld spatter, arc strikes, shallow nicks, scrapes, and other minor surface rejections. The areas were marked with colored chalk and ZPMC workers used electric grinders to remove the visually unacceptable areas and ZPMC performed magnetic particle inspections of the arc strike removal areas after they were removed.

Summary of Conversations:

See Above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang phone: 150-0042-2372 , who represents the Office of Structural Materials for your project.

Inspected By:	Dawson,Paul	Quality Assurance Inspector
Reviewed By:	Carreon,Albert	QA Reviewer